

APPENDIX B

Amended Ordinance Chapter 27 (effective April 4, 2000)

AMENDING CHAPTER 27

ORDINANCE AMENDING THE GREENSBORO CODE OF ORDINANCES WITH RESPECT TO STORM WATER MANAGEMENT

Section 1. That ~~Chapter 27 is hereby amended by adding a new~~ Section 27-22, Storm Water Management Control Requirements, is hereby amended to read as follows:

Sec. 27-22 Stormwater Management Control Requirements

(a). Purpose

The purpose of the "Stormwater Management Control Ordinance" is to protect, maintain, and enhance the public health, safety, and general welfare by establishing minimum requirements and procedures to control the adverse effects of increased stormwater runoff associated with new development or redevelopment within the City of Greensboro. Proper management of stormwater runoff, including the provision of appropriate stream buffers, will minimize damage to public and private property, promote a functional storm drainage system, reduce local flooding and drainage problems, and maintain, to the extent practicable, the pre-developed stormwater runoff characteristics of the developed site.

(b). Applicability

(1) Coverage. This Section (Stormwater Management Control Requirements) applies to the following type of developments.

All sites containing new development and/or redevelopment including grading, paving, gravel placement, and construction of buildings and other structures within the corporate limits and the extraterritorial jurisdiction of the City of Greensboro.

The construction and installation of new public improvements by local government agencies streets or the widening of existing streets shall comply with the provisions of this Article to the extent practicable.

(c). Participation in a Regional Stormwater Management Facility

Where Permitted. Where a regional stormwater management facility has been established by one or more local governments, or by an authority operating on behalf of one or more local governments, a development may participate in said program in lieu of any certification of runoff control required by this Article, provided that:

Runoff from the development drains to an approved existing or proposed public regional stormwater management facility that will be operational within two years;

Participation is in the form of contribution of funds, contribution of land, contribution of stormwater , management facility construction work, or a combination of these, the total value of which shall be in accordance with fee schedule adopted by the City Council; and

The Technical Review Committee finds that the Stormwater Management Plan is in compliance with all other applicable requirements of this Article.

Use of Contributions. Each contribution from a development participating in a regional stormwater management facility shall be used for acquisition, design, construction or maintenance of one or more such facilities in the same watershed in which the development is located.

(d). Stormwater Management Plan

(1) Plan Required. A Stormwater Management Plan and separate maintenance plan in accordance with the requirements of this Article shall be submitted to the Enforcement Officer and shall include all applicable information listed in the Stormwater Management ~~Guidance~~ Manual and the Storm Sewer Design Manual. The Stormwater Management Plan may be combined with any required Watershed Development Plan.

(2) Plan Approval. The Technical Review Committee is authorized to approve the Stormwater Management Plan, which is in conformance with the requirements of this Article. Approval of the Stormwater Management Plan must be as follows:

Site Plans: The Stormwater Management Plan and separate maintenance plan must have approval prior to or concurrent with site plan approval.

Preliminary Subdivision Plats: The Stormwater Management Plan must have approval prior to or concurrent with Preliminary subdivision plat approval except that when a stormwater management improvement is proposed, the construction plan details including proposed grading, dimensions, calculations, etc. for the proposed improvement and the separate maintenance Plan may be approved following Preliminary subdivision plat approval. The construction plan details and separate maintenance plan must be approved prior to issuance of any permits as specified in Section 27-22 (d) (3).

Approved Plan a Prerequisite. The Enforcement Officer is not authorized to issue any permits, except as provided in Section 30-3-4.2 (Permits Issued Prior to Site Plan or Preliminary Plat Approval) of the Greensboro Development Ordinance, for development on any land unless and until a Stormwater Management Plan, that is in compliance with the requirements of this Section, has been approved.

Plan Certification Requirement For Structural Stormwater Management Improvements. Where a structural stormwater management improvement is required for a development to meet the requirements of this Article, a North Carolina licensed professional engineer shall sign and seal a certification on the plan that the plan meets all stormwater management requirements of this Section.

(e). Stormwater Management Improvements

(1) Construction of Improvements.

a. The construction of all structural stormwater management improvements, shown on an approved Stormwater Management Plan shall be substantially completed prior to final plat recordation or issuance of any building certificate of compliance. Upon approval by the Enforcement Officer, a surety for the completion of stormwater management improvements may be given to the City of Greensboro in order to record the final plat.

Final approval of the installed stormwater management improvements is required at the time of issuance of the final building certificate of compliance. If neither a building permit nor a grading permit is required for a site, then the installation of the required structural stormwater management improvements shall be substantially completed or a surety for completion must be obtained prior to installation of any built-upon area on the site. An engineer's certification of completion of the form below (which is identical to Table 30-7-1-6 of the Greensboro Development Ordinance), shall be required prior to final approval by the Enforcement Officer.

Table 30-7-1-63

ENGINEER'S CERTIFICATION OF STORMWATER CONTROL COMPLETION

The engineer's certification, required according to Section 30-7-1.6(B) of the Greensboro Development Ordinance and Section 27-22(e) of the Stormwater Management Ordinance upon completion of permanent FUR94 stormwater control structures shall be of the following form:

ENGINEER'S CERTIFICATION OF STORMWATER CONTROL COMPLETION

I certify that the permanent stormwater ~~runoff~~ control(s) structure labeled as _____ on this plat (or, on (name of plat) as recorded in PB__, PG__ in the Office of the Guilford County Register of Deeds) has been completed in conformance with the plans and specifications approved on (approval date), ~~and~~ has its full design volume available, and is functioning as designed.

P.E. SEAL

SIGNATURE

DATE

Recordation of Permanent Improvements. All permanent stormwater management improvements and associated access / maintenance easement(s) shall be recorded on a Final Plat, and if required by Section 27-22 (e) (3), a mechanism to ensure their maintenance shall be established concurrent with or prior to plat recordation.

(3) Maintenance Responsibility.

When a stormwater management improvement serves more than one parcel, an owners' association or binding contract for the purpose of maintenance is required. See Section 30-6-10. 1, Establishment of Owners' Association, of the Greensboro Development Ordinance.

The owner or owners' association shall be responsible for maintaining the completed stormwater management improvement as directed by the governmental office having jurisdiction for stormwater management or by the approved maintenance plan. If an owners' association is responsible for the maintenance of the stormwater management improvements such responsibility must be stated in the association declaration. An underground oversized storm sewer system which is approved through TRC for acceptance and maintenance by the City, carries public waters and is located either in the dedicated street right-ofway or drainage maintenance and utility easement is exempt from this requirement.

c. The Enforcement Officer has the authority to inspect stormwater management improvements and to notify the responsible property owner or owners' association when maintenance or repairs are required. All required repairs and maintenance shall be performed within ninety (90) days after such notice. In case of failure by the responsible party to perform the required maintenance or repairs within the stated period, the City may perform such maintenance or repairs and recover all costs attendant thereto from the property owner or owners' association.

(f). Stream Buffer Protection Requirements

Stream Channelization/Piping

Perennial streams, as defined by the Stormwater Management Manual, within a designated water supply watershed may not be channelized or piped, except for channelization permitted pursuant to Section 30-7-1.8 (C), Stream Channelization.

b. Perennial streams that are outside of a designated water supply watershed and other streams that are not classified as Perennial may be channelized or piped, but only after obtaining all applicable federal and state permits and certifications.

(2) Stormwater Management Stream Buffers. ~~Stream buffers serve to protect the floodplain from excessive encroachment and help to reduce the potential for negative impacts. On any streams where Section 30-7-1.8, Stream buffer required, requires a stream buffer, this Section will require the same buffer. On all other streams, or section of streams, to which this Section applies, stream buffers with minimum widths as specified below shall be maintained along all open (1) perennial streams, as defined by the Stormwater Management Manual, and (2) natural drainage channels draining an area equal to or larger than 50 acres. Where stricter stream buffer requirements exist, in Section 30-7-1, (Water Supply Watershed Districts), Section 30-7-2, (General Watershed Areas (GWA)), or Section 30-7-3 (Watershed Critical Areas (WCA)) of the Greensboro Development Ordinance, the stricter stream buffer requirements shall apply.~~

~~(2) Citywide Stream Buffer Widths.~~

- a. The buffer width shall consist of two strips of land totaling a minimum total width of 50 feet on each side of the water body:
 - (i) ~~Zone 1 consists of a~~ The first strip of land has a minimum width of 15 feet measured horizontally from and perpendicular to the top of stream bank, or the top of slopes steeper ~~greater~~ than 15%, or the edge of contiguous sensitive areas (i.e. wetlands). ~~Zone 1 This first strip of land and the area between this first strip of land and the first strip of land on the other side of the water body is to be maintained free from development including disturbance of the soil, grading or filling, erection of structures, fences or placement of impervious built-upon surfaces No disturbances are allowed in Zone 1 or the stream channel except those associated with street and driveway crossings, utility crossings, and installation of stormwater management facilities where no practicable alternative exists. The first strip of land may be included as in the areas contributing to Conservation or Floodplain Easements.~~
 - (ii) ~~Zone 2 consists of a strip of land~~ The second strip of land has a minimum width of 35 feet measured

horizontally from and perpendicular to begins at the termination point of Zone 1 the landward edge of the first strip of land. This second strip of land is to be maintained free from occupied structures and with impervious shall maintain a built-upon area below 50 percent with the exception of public or private street crossings. ~~All Drainage Maintenance and Utility Easements described in the Greensboro Development Ordinance can be applied within Zone 2.~~

(g) Stormwater Management Requirements

- (1) Stormwater management requirements for all new development and redevelopment shall consist of, as a minimum, runoff control measures necessary to control runoff to a level which will not cause increased off-site quantity flooding, drainage, or erosion problems as specified in (2) and (3) below.

(2) Quantity Control Requirements:

- (a) ~~The Engineer-Engineers~~ shall provide a certification that said development or redevelopment would not cause increased offsite flooding, drainage, or erosion problems. Determination of impacts shall be based on hydrologic and hydraulic engineering studies extending downstream to a point where the proposed site development or redevelopment represents less than ten (10) percent of the total drainage area or watershed. The studies shall be based on an analysis of both 2- and 10-year storm events. (see ~~Storm Water~~ Stormwater Management Guidance Manual).
- (b) Where it is determined that the development of the said site does contribute to flooding, drainage or soil erosion problems at any location between the proposed development site and the 10 percent downstream point then a runoff stormwater quantity control plan improvements must be implemented. The runoff stormwater quantity control plan improvements must limit the 2-year and 10-year post-development peak discharge rates to pre-development peak discharge rates, to prevent minimize increased flooding, drainage, and erosion problems. These improvements may consist of nonstructural approaches such as natural swales, depressions in the land and other natural approaches, or structural approaches such as detention structures (wet and dry basins), extended detention facilities and alternative Best

Management Practices with provisions for stormwater quantity control. A combination of nonstructural and structural approaches is encouraged.

- (c) For all stormwater management improvements that are proposed to be implemented to meet the quantity control requirements of this Section, a hydrologic-hydraulic analysis of the site drainage system in the pre-development condition and the post-development condition shall be performed. The analysis should be included with the Stormwater Management Plan and should demonstrate that the stormwater management quantity control requirements stated in Section 27-22 (h) ~~(4)~~ (2) of this Ordinance will be achieved by the proposed facilities improvements. These improvements shall be subject to review and approval by the Enforcement Officer.

(3) Developments that meet the requirement for being identified as an Integrated Multiple Multi-Use Developments, Planned Unit Developments, phased developments or group developments can meet the requirements of Section 27-22(g) at the point the discharge leaves the overall property.

(h). *Master Plan Requirements:* It is the intent of the City of Greensboro to produce stormwater quantity and quality management master plans to guide the design and development of the drainage system for all of the major sub-watersheds and watersheds in the city. Where such master plans are available and approved by the City Council, site development projects are to conform to the stormwater management guidance and standards available in said master plans.

(i). *Additional Requirements:* ~~(1) In addition,~~ If site characteristics indicate that complying with ~~these~~ the minimum stormwater management requirements of this Section will not provide adequate designs or protection for local residents, and downstream property, it shall be the site designer's responsibility to exceed the minimum requirements as necessary.

(j). *Exempt Activities:* The following activities are exempt from the plan submission and approval requirements of this Section 27-22 (g). However, any restrictions upon building location, drainageways, pavement, or other built-upon area, or any other matter appearing on any previously approved development plan covering the subject property, shall be complied with unless and until replaced by an approved revised plan.

- (1) Individual Single Family housing on an individual lot.
- (2) Replacement of existing built-upon area with like or lesser amount of new built-upon at the same location, or at a different location on the same zone lot if the Enforcement Officer has determined that equal or improved stormwater management will result.
- (3) Placement of small accessory buildings or structures or small amounts of additional built-upon area provided that the total additional built-upon area is no greater than four hundred (400) square feet.

Section 2. The effective date of ~~this ordinance~~ these amendments shall be July 1, 1999 April 4, 2000. All preliminary plans and site plans that have been were approved through the TRC process prior to July 1, 1999 will not be required to comply with this revision Section 27-22. Property covered by one or more of the following will be exempt from this ordinance:

1. Unified Development Plan approved prior to April 4, 2000.
2. Preliminary Subdivision Plat approved between July 1, 1997 and April 4, 2000 or covered by an earlier preliminary plat that remained valid (refer to Section 30-6-7.8 and 30-6-12) at any time during this period. This exemption also applies to the placement of one principal building and accessory structures on each lot.
3. Site plan approved between July 1, 1997 and April 4, 2000 or covered by an earlier site plan that remained valid (refer to Section 30-3-11.4(F)) at any time during this period.

Section 3. That Section 27-21 (c) is hereby amended to read as follows:

(c). Soil Erosion and Sedimentation Control

(1) Incorporation of Section 30-7-4 (Soil Erosion and Sedimentation Control)

This section incorporates by reference the requirements of Section 30-7-4, Soil Erosion and Sedimentation Control.

Section 4. That Section 27-21 (d) is hereby amended to read as follows:

(d). Water Supply Watershed Districts

(1) Incorporation of Section 30-7-1 (Water Supply Watershed Districts); Section 30-7-2 (General Watershed Areas); Section 30-7-3 (Watershed Critical Areas).

This section incorporates by reference the requirements of Section 30-7-1, Water Supply Watershed Districts; Section 30-7-2, General Watershed Areas; Section 30-7-3, Watershed Critical Areas.

Section 5. That Section 27-21 (e) (2) is hereby amended to read as follows:

(2) Stormwater Management

The design, construction, and maintenance of stormwater improvements to meet the requirements of Section 27-22 or Section 30-7 shall be according to the City of Greensboro Stormwater Management Manual under the specifications and requirements as set out by the City Manger and on file in the Office of the City Clerk, which specifications and requirements are hereby adopted and made a part of this chapter as if set out in full.

Section 6. That Section 27-21 (e) (6) is hereby deleted from the Ordinance.

Section 7. All ordinances in conflict with the provisions of this ordinance are repealed to the extent of such conflict.

The foregoing ordinance was adopted by the
City Council of the City of Greensboro on the
...4... day of ...April... 2000... and will
become effective April 4, 2000.

This the 13
...April... 2000

Jeanita F. Cooper
City Clerk

